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AMERICAN DYESTUFF REPORTER

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IN THIS ISSUE

The Power of Color

Dual Role as Sales Stimulant and Military Defender Described to Cotton Men by C. H. Clark, Editor of "Textile World"—Resolution Agrees "Special Measure of Protection" Necessary

On Acquiring the Moon—What Then?

An Editorial

Foreign Dyes Licensed by W. T. B. for April Import

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AMERICAN DYESTUFF REPORTER

A Weekly Publication devoted to

DYESTUFFS, COLORS and ALLIED CHEMICALS

"Circulated Everywhere Dyestuffs Are Used"

Vol. 8 New York, May 9, 1921 No. 19

THE POWER OF COLOR

Dual Role as Sales Stimulant and Military Defender Described to Cotton Men by C. H. Clark, Editor of "Textile Word"—Resolution Admits "Special Measure of Protection" Necessary

IN accordance with the policy stated early in the present year, The REPORTER presents this week another notable contribution to the struggle of the American dye industry for the protection which is its rightful due and which, even though that right be utterly disregarded, must nevertheless be given it for the sake of the country as a whole. Speaking before the annual convention of the National Association of Cotton Manufacturers in Boston, Charles H. Clark, editor of "Textile World," espoused the cause of the industry to such good purpose that the meeting produced the following resolution:

"Resolved, That the National Association of Cotton Manufacturers, in convention assembled, favors a tariff on foreign importations which, while assuring needed revenue to the Government, will adequately protect American labor and industries without creating or fostering monopolies. Be it further

"Resolved, That we favor for a limited period of years, such special measure of protection as will enable the recently created American Dyes Industry while rendering fair and satisfactory service to consumers, to compete on equal terms with the dye makers of other countries, the same to be coincident with a simplification of the administration of the drawback provisions of our tariff laws to the end that American industries shall not be needlessly handicapped in world trade."

That, you will agree, is a very handsome thing for the Association to have offered the industry, for it has been repeatedly demonstrated that the only kind of protection which will do all the things required of it in this resoluton, namely, to protect the dye makers and the dye users at one and the same time, and all without needless red tape, is the protection afforded by that recent outgrowth of the originally proposed license system, the selective embargo on foreign dyes as provided for in Mr. Longworth's new bill. Moreover, with all parties to the erstwhile dispute getting together in the manner made evident at the Boston meeting of cotton

manufacturers—and it was a national convention, be it remembered—plus President Harding's outspoken sentiments and the known majority of Senators and Congressmen favoring adequate protection, there is every reason for standing by our carefully considered assertion of last week to the effect that the battle is already won.

A portion of the address which aided in producing that resolution we propose to give you here, and we regret exceedingly that there is not room for the whole speech. Mr. Clark spent some time in showing the absolute dependence of the textile manufacturers upon the success of the dye manufacturers, and this is in itself so interesting and vital that it will be reproduced next week in another part of this publication. In the latter half of the address, which follows, the speaker emphasized the view, so often stated, that while it is theoretically possible for the Government to maintain synthetic chemical plants for the production of high explosives and gases in case of war emergency, these plants, to be effective, cannot remain idle until the need arises, but must keep abreast of the research work and discoveries of other nations. To do this it follows that "the Government substitute must duplicate the commercialized entity" and that "the only practical alternative of such a socialistic adventure is to grant our new organic chemical industries as adequate protection as Great Britain and France have given theirs."

But let Mr. Clark tell it:

This review of ancient and modern uses of color in textiles demonstrates in a partially inferential and partially direct manner that color is an absolute necessity to the commercial success of a very large proportion of the textile industry. While it is true that some of the factors that once controlled demand for color in textiles no longer play a dominant part, the majority of old impelling causes are still at work directly or indirectly. Religious, national and caste influences were the fashion dictators of ancient times, and a careful study of Fashion's modern dictates will lead one frequently into the realm of national and caste significance of color. Fashion adapts but seldom creates anything really new.

The extent to which changing fashion in color increases the demand for textiles cannot be estimated with accuracy, but that it has an enormous influence, and is a far more important factor than fabric design is generally agreed by those who have studied the subject carefully. Organized attempts to control and standardize color tendencies in the various branches of this and other industries are evidence of a growing appreciation of the selling power of color, as well as of its power to cause serious losses when uncontrolled. The Textile Color Card Association of the United States that was organized by domestic ribbon and dress goods manufacturers and selling agents during the war gave to American textiles a much higher prestige than they had ever enjoyed before and this advantage should never be relinquished. Close co-operation of American dye-making firms is also worthy of continuance. The fact that France and England were accustomed before the war to set the color styles in textiles may not have proved particularly disadvantageous to the German dye-making industry, but for the new American dye industry there is equal opportunity with American textile manufacturers to build prestige and reputation on American colors dyed with American dyes.

That the Germans were appreciative of the commercial advantage that their control of synthetic dye manufacture made possible, and that they were about to capitalize it in a systematic way when the war intervened, is well authenticated. It was one of the chief objectives of the German dye trust and, in co-operation with German textile manufacturers, it was to deal a heavy blow, if not a death blow, to English and American supremacy in international textile trade.

They proposed holding out their

new and very special colors from any but German owned mills and dyeing establishments and, in addition, making a higher price for their regular run of colors to all foreign users. With this advantage and given an efficiency in textile making which would allow of competing without it, they hoped to choke our industry and that of England until they had control. At the foot of their rainbow was a pot of very slow poison.

It is clear, then, that the relation of the textile and dye-making industry assumes an international importance; it becomes a very strong factor in the rivalry of nations. It is no longer possible to say that it is immaterial to the textile industry of any country where the dyes which it uses are made. To do so is to lie down with one's head in the dragon's mouth and oblige the beast by waiting until he is hungry.

Fastness of a color to various manufacturing processes and to light, laundrying and certain other factors incident to its use in textiles is a most important commercial advantage. Any campaign of textile conquest that may have been considered by German dye manufacturers must have included capitalization of this feature of their synthetic dyes, yet prior to the World War they had completely failed to educate the public along these lines. The reputation that Louis Hermsdorff built up years ago for his fast black on hosiery through advertising might have been similarly established by the German synthetic dye manufacturers for their whole line of dyes, and at a cost that would have been small in comparison to the possible results. We wonder if they realize that the publicity that would have cost them hundreds of thousands of American dollars and years of the cleverest kind of selling propaganda has been made available free of cost by the lack of color guaranteeing during the war? It is true that there was an excuse for the dry goods trade to refuse to assume responsibility for the fastness of many dyed goods during the war when the manufacturers were unwilling to do so, but at no time since then has there been reasonable cause for the insidious way in which they have continued to advertise their lack of faith in American dyes, while allowing it to be assumed that German dyes are superior.

The correction of this absolutely false impression regarding American dyes that has gained wide publicity is one of the greatest problems faced by the domestic dye and textile industries. The very fact that so large a proportion of consumers still believe in the superiority of German dyes, and would give them the preference, other things being equal, is an added reason why the domestic dye industry must be given adequate protection.

The conquest of foreign markets that was to result from this organized co-operation of the German synthetic

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dye and textile industries may easily have been only one of several menacing attacks upon foreign trade supremacy to be launched by industries having the synthetic dye industry and Germany's marvelous mastery of organic chemistry as their basis. In addition to dyes the finished products of the coal-tar chemical industry are pharmaceuticals, photographic chemicals, perfumes, flavors, color lakes, synthetic phenolic resins, synthetic tannin materials, explosives and war gases. For the commercially successful production of most of these products the synthetic dye industry is pivotal, since its intermediates are the intermediates of the other products and the latter can be produced most cheaply as a by-product of the much larger dye industry.

In open competition against such a trust, the pharmaceutical, or dye, or other synthetic chemical company in this country could not hope for success. No tariff could be made high enough to prevent the German trust from throttling a foreign competitor, for it could well afford to sell at a large loss to produce the desired result, in the meantime netting a handsome profit on its other numerous lines.

Germany has over $500,000,000 gold invested in the coal-tar chemical industry, and as it and its varied subsidiary industries were greatly expanded during the war to meet the enormous demand for high explosives and gases they must now find a peacetime outlet for a larger product than ever before, and their efforts will be backed to the limt by the Government. The expansion of the industry and its rapid transformation from a war to a peace basis is proved by the fact that dye production is now at the rate of 178,000 tons annually as compared with 135,000 tons before the war, and the Allied Reparations Commission is being urged to increase its takings of dyes under the peace terms. Not only does this mean that enormous stocks of dyes will be used at the first opportunity to recover lost markets without regard to price, but it also means that the production of so-called by-products has increased and that research work in organic chemistry is being stimulated.

The fact that Germany's organic chemical industry is now concentrating its energy upon new commercial conquests would cause deeper concern throughout the world if there were a more adequate understanding among laymen of its prior accomplishments. If this knowledge were general in this country it is safe to assert that Congress would not hesitate to enact laws so restricting the importation of synthetic chemical products as to prevent the slightest competitive danger to our infant organic chemical industry. Great Britain has already done this by adopting a licensing system, for the British public realizes that they lost to Germany the leadership in this branch of industry, made possible by Perkins' discoveries, through failure to encourage the study of organic chemistry and the prosecution of research work.

By more than fifty years of laborious and systematic co-ordination of university training research work in laboratory and shop, by the development of a complete literature of the science, by Government subsidies, by pecuniary and honorary incentives to her scientists, and by industrial and sales development, Germany has attained a dominance in the science and the industry. It is the greatest source in the world to-day of war making and health giving power, and the synthetic dye industry is the pulsating heart that gives it life.

The interdependence of the dye-making and the textile industry, therefore, involves a responsibility to mankind that is of far greater importance and potentiality than their relatively insignificant products Prosperous and progressive dye-making and textile industries are as necessary to national welfare as are defensive or offensive armaments. Problems affecting their prosperity and vigor are of vital importance to the welfare of every citizen.

It is quite true that it is possible

theoretically for the Government to maintain synthetic chemical plants for the production in a war emergency of high explosives and gases, but unlike munition plants they cannot remain idle until the emergency arises. To be effective, and to keep abreast of the research work and discoveries of other nations having complete, co-ordinating organic chemical industries, with their training schools and their allied industries, the Government substitute must duplicate the commercialized entity. The only practical alternative of such a socialistic adventure is to grant our new organic chemical industries as adequate protection as Great Britain and France have given theirs.

Because of the preponderating importance of the products of the organic chemical industry in war making it is inevitable that the crux of the disarmament problem will be the redistributon of the world capacity of this industry in such a manner that no country's capacity shall be largely in excess of its legitimate peace needs. In any event the principle employed must recognize the menace to world peace of a German organic chemical industry that so far exceeds this minimum. It is, therefore, apparent, that, until the disarmament problem has been disposed of, it would be the height of national folly to fail to encourage and safeguard our synthetic dyestuff industry. This consideration outweighs any quasi-political or commercial objections to protective legislation needed to make this safeguarding certain. We must ever bear in mind that grim fact that they who make dyes to-day may make high explosives and war gases to-morrow.

FOREIGN DYES LICENSED BY W. T. B. FOR APRIL IMPORT

Following is a complete list giving the types and quantities of dyestuffs for the importation of which into the United States licenses were granted by the War Trade Board during April. This tabulation is being issued by the American Dyes Institute, and it is announced that anyone interested in the manufacture of dyestuffs who has not received a copy may obtain one by application to that organization's headquarters, 320 Broadway, New York.

It should be noted that, in addition to the colors listed, there were items licensed for import from England and France as follows:

Designation of Dye	England (lbs.)
Acid Magenta N	25
Aliz. Blue S Powd	500
Aliz. Orange Paste	1,500
Aliz. Red IP Paste	1,000
Aliz. Red YCA Paste	1,000
Auramine	1,165
Blue Lake	50
Cross Dye Green B	2,240
Cross Dye Green 2G Conc	4,480
Curcuphenine	1,000
Duranthrene Red Violet 2RN	2,240
Durindone Blue 6B	500
Pigment Orange Base L	100

(*Continued on page* 12.)

SUBSTITUTION

is always risky and often expensive.

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Pointed solely toward the welfare and growth of the American Dyestuff Industry. Unbiased contributions appreciated.

A. P. HOWES, President
LAURANCE T. CLARK, Editor

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ON ACQUIRING THE MOON, WHAT THEN?

"Things are seldom what they seem," wrote the late Sir W. S. Gilbert as an opening line for one of the songs in the ever popular "H. M. S. Pinafore." "'Tis distance lends enchantment to the view," sang the poet, Thomas Campbell. How often have we yearned for the apparently unattainable, only to find on acquiring it that it had been immensely overrated. How often have we seen the bright bubble burst when we seized it!

All of which is called to mind by the case of a large American manufacturer of woolens. This company, in common with many another, felt keenly the loss of Germany's dyestuffs, and one of the colors whose absence seemed to leave a particularly prominent gap was Alizarine Blue. Heavens, how it was missed! Forced to substitute American chrome colors in place of it—merely as a makeshift, of course—the dyers suffered acute mental distress. They had to learn a portion of their business all over again, and all ardently hoped for the day when this German dye should be restored to them.

Behold! the day arrived, and with it a consignment of Alizarine Blue bearing labels to show that it had been passed by the official Reparations Commission censors. There was great rejoicing—for a little while.

We have it upon the authority of the chemists of this concern that the results which they have been getting with the Alizarine Blue have been anything but satisfactory—so little so, in fact, that a return to the American "makeshifts" has taken place.

This instance is authentic and is, moreover, typical of a number which have come to the attention of this office.

Now, it is not believable that the German ability to make Alizarine Blue is executing a retrograde movement. This is hardly the time the Germans would choose for the introduction of an inferior brand of one of their former triumphs in the art of synthetic dye making.

The answer may be found in the fact that the American workmen, long familiar with the processes of dyeing with Alizarine Blue, found it extremely awkward to accustom themselves to getting results with the American substitutes, and that during the long interval between shipments of the Cartel color, the familiar operations had time to become the unfamiliar ones. The dyers had grown "rusty" in the application of Alizarine Blue and were thoroughly conversant with the American colors. To change again meant another period of uncertainty, and rather than go through with it with no gain to themselves in the way of improved results, they went back to old-new materials which they well understood. This serves, likewise, as another instance of the supreme importance of long experience and familiarity to anyone essaying the handling of dyestuffs.

The country thought it could not get along without Zambesi Black V. But it could not get this color for a long while, and finally an American dye manufacturer, after much trouble, produced a Zambesi Black in every way equal to the product which the Germans had been sending over in the days of long ago. Was it pounced upon with delighted cries by the consumers? No, Reader, the great trouble has been to find a market for it, because most of the consumers informed the manufacturer that since they had succeeded in getting their customers used to an inferior color,

what would be the point in paying a higher price for the better article?

What, indeed! This last instance, however, shows a specimen of the ugly framework upon which large numbers of a still skeptical public can conveniently hang an indictment of the American dye industry. When some of the textile manufacturers were learning to use American dyes, they found that the public would excuse almost anything in the way of shortcomings if told that the goods were dyed with American dyes and that American dyes were—well, you know; what can you expect of them, anyway! It was a masterly method of stepping from under and letting the full force of public censure come back upon the dye manufacturers. And when the latter at last began offering superior dyes, at prices naturally higher, the textile manufacturers to which we refer decided that it would be profitable to keep the popular superstition about American dyes alive a little longer.

But it is a vicious practice and one which, happily, will some day wear itself out by its own friction.

NICHOLS MEDAL GOES TO DR. G. N. LEWIS

One of the highest honors of American chemistry, the William H. Nichols Medal for 1920, was bestowed Friday evening upon Dr. Gilbert N. Lewis, Dean of Chemistry of the University of California at Berkeley. The presentation was made at a meeting of the New York Section of the American Chemical Society held in Rumford Hall at 50 East Forty-first Street.

The medal, which was founded by Dr. William H. Nichols, the well-known chemical industrialist and past president of the society, was given for the best paper published in 1920 in the three journals of the society. The paper of which Dr. Lewis is the author is entitled, "The Third Law of Thermodynamics and the Entropy of Solutions and of Liquids." The achievements of

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Dr. Lewis in science were described by Drs. Arthur B. Lamb and John Johnston, and the medal was presented by Dr. John E. Teeple, chairman of the New York Section. In accepting the honor Dr. Lewis delivered an address entitled "Color and Molecular Structure."

The latest recipient of the Nichols Medal was born in Weymouth, Mass., near Boston, in 1875. He studied at the University of Nebraska and in 1896 was graduated from Harvard University, from which institution three years later he received his doctor's degree. After studying chemistry at the universities of Leipzig and Gottingen he returned to Harvard as an instructor in chemistry. In 1911 he was chosen professor in chemistry at the Massachusetts Institute of Technology and in 1912 went to the University of California.

Dr. Lewis in 1918 was appointed a major in the U. S. Army, A. E. F., and served as chief of the Defense Division of the Gas Service. His services were recognized by the French Government, which made him a Chevalier of the Legion of Honor.

W. T. B. APRIL LICENSES

(*Continued from page* 9.)

Designation of Dye	England (lbs.)
Pigment Yellow GL 40% Paste...	100
Thinol Brown R.....	2,500
Total	18,400

Designation of Dye	France (lbs.)
Naphthalene Green NV.....	5,000
Rhodamine B Extra.....	110
Total	5,110

Note (by request of the War Trade Board)—Licenses shown by this list to have been issued for particular commodities must not be considered as a precedent or assurance that favorable action will be taken on future applications for similar commodities. The War Trade Board Section announced in special cases that it is its practice to consider any special evidence that may be submitted by manufacturing consumers of dyestuffs tending to prove that the American commodity, while satisfactory in general or for some lines, will not meet the requirements as to quality or adaptability for particular manufacturing purposes.

Designation of Dye	Germany (lbs.)	Switzerland (lbs.)
Acid Aliz. Blue BB.....	200	..
Acid Violet 4BNS.....	..	1,000
Acid Wool Blue RL.....	..	5,000
Algol Blue 3G	1,000	..
Algol Brill. Red 2B.....	1,000	..
Algol Brill. Red 2B Pdr..	52	..
Algol Brill. Violet 2B Paste	500	..
Algol Brown B	1,000	..
Algol Brown R	1,500	..
Algol Red B Paste.....	110	..
Algol Red FF	500	..
Algol Red FF Extra.....	1,000	..
Aliz. Astrole B Conc.....	400	..
Alizarine Black 3B.....	500	..
Alizarine Blue Black B...	2,740	..
Alizarine Blue S.....	200	..
Alizarine Blue SAP.....	..	720
Alizarine Blue SAWSA..	100	..
Alizarine Blue SKY.....	400	..
Aliz. Bordeaux GX Paste	100	..
Alizarine Cyanine Green Extra Powder	1,500	..
Alizarine Cyanol EF.....	25	..
Aliz. Indigo BB Paste...	2,500	..
Aliz. Indigo 3R Paste...	800	..
Aliz. Irisole R Powder...	205	..
Aliz. Light Blue B.....	..	1,000
Aliz. Red S Powder.....	100	..
Aliz. Rubinol R	50	..
Aliz. Rubinol R Conc....	1,000	..
Aliz. Safirol B Powder...	1,700	..
Aliz. Sky Blue B.....	1,000	..
Aliz. Sky Blue B Powder	200	..
Anthosine B	500	..
Anthosine 3B	500	..
Anthra Cyanine	..	110
Anthraflavone GC Paste..	200	..
Azo Acid Blue B.....	..	2,220
Azo Carmine GX	100	..
Azo Cyanine GR	125	..
Azo Orseille BB	2	..
Azo Orseille 5B	2	..
Azo Rhodine 6B	..	500
Azo Rhodine 2G	..	2,500
Benzo Chrome Brown G.	1,000	..
Benzo Fast Black L	1,000	..
Benzo Fast Blue FFL ...	600	..
Benzo Fast Blue G	250	..
Benzo Fast Blue 2GL ...	50	..
Benzo Fast Blue 4GL ...	250	..
Benzo Fast Bordeaux 6BL	2,425	..

Designation of Dye	Germany (lbs.)	Switzerland (lbs.)
Benzo Fast Brown 3GL.	100	..
Benzo Fast Brown RL ..	2,050	..
Benzo Fast Eosin BL ...	10	..
Benzo Fast Heliotrope 4BL	175	..
Benzo Fast Heliotrope 2RL	425	..
Benzo Fast Heliotrope 5RH	500	..
Benzo Fast Orange 2RL.	700	..
Benzo Fast Pink 2BL ...	25	..
Benzo Fast Red 8BL ...	1,200	..
Benzo Fast Yellow 4GL Extra	10	..
Benzo Fast Yellow RL ..	600	..
Benzo Red 12B	100	..
Brill. Benzo Green B.....	150	..
Brill. Benzo Violet B.....	500	..
Brill. Croceine 5BA Conc.	1,000	..
Brill. Delphine Blue BS..	..	2,500
Brili. Fast Blue 3BX.....	1,100	..
Brill. Fast Blue 4G.....	2,000	..
Brill. Milling Blue B.....	174	..
Brill. Red R Paste.....	10,000	..
Brill. Sky Blue 8G.....	150	..
Carbide Black E Conc....	..	11,000
Chinoline Yellow	..	2,000
Chloramine Red 8B Conc.	..	1,000
Chromanile Black FF Ex.	300	..
Ciba Blue BD Paste.....	..	33,000
Ciba Blue 2BD Paste.....	..	11,000
Ciba Violet B Powder...	..	35
Ciba Violet R Paste.....	..	2,765
Cloth Fast Blue R.....	..	5,500
Coriphosphine OX Extra	200	..
Cyananthrol BGAOO ...	809	..
Cyananthrol RXO	100	..
Cyanol Extra	734	..
Cyanol AB	64	..
Cyanol BSP	18	..
Cyanol FF	142	..
Cyanol Extra MKH	46	..
Developer B	300	..
Developer Z	75	..
Diamine Brown B	200	..
Diamine Catechine 3G ..	2,000	..
Diamine Fast Blue FFB.	600	..
Diamine Fast Blue FFG..	2,000	..
Diamine Fast Blue G	250	..
Diamine Fast Brown GB.	400	..
Diamine Fast Brown R ..	200	..
Diamine Fast Orange EG	600	..
Diamine Fast Orange ER	400	..
Diamine Fast Red 8BL..	650	..
Diamine Fast Violet FFR	400	..
Diamine Fast Yellow B..	400	..
Diamine Fast Yellow FF.	600	..
Diamine Yellow N.....	500	..
Diazo Brill. Black B	700	..
Diazo Brill. Orange GR Extra	100	..
Diazo Brilliant Scarlet 2BL Extra	300	..
Diazo Brill. Scarlet 3B Ex.	50	..
Diazo Brill. Scarlet 6B Ex.	200	..
Diazo Brown G	100	..
Diazo Brown 3G	100	..
Diazo Brown NR	100	..
Diazo Fast Red 5BL	100	..
Diazo Fast Scarlet BL ..	200	..
Diazo Fast Yellow G ...	150	..
Diazo Fast Yellow 2G ..	70	..
Daizo Fast Yellow R ...	25	..
Diazo Indigo Blue 2RL..	973	..
Diazo Pure Blue 3G.....	3,000	..
Delphine Blue RK.....	250	..
Diphenyl Fast Brown GF	..	2,000
Direct Cutch Brown GR Conc.	..	2,200
Erika B	..	2,000
Erio Chrome Black A...	..	47,000
Erio Chrome Green	..	2,000
Eriocyanine A	..	7,000
Erio Glaucine A501.....	..	1,000
Ethyl Violet Conc.....	200	..
Fast Acid Marine Blue HBBX	10	..
Fast Garnet G Base.....	100	..
Fast Green Extra Bluish.	4,400	..
Fast Light Yellow 3G....	100	..
Fast Orange R	440	..
Fast Orange R Base.....	440	..
Fast Red G Base.....	11,000	..
Fast Red GL Base.....	886	..

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80 MAIDEN LANE, NEW YORK.
MANUFACTURERS OF
Safranine
A COLOR FOR SILK-WOOL-COTTON-PAPER ETC.

Designation of Dye	Germany (lbs.)	Switzerland (lbs.)
Fast Scarlet G Base.....	880	..
Fast Scarlet R Base.....	880	..
Formic Black C Conc...	..	1,000
Formic Black TG Conc..	..	1,000
Formyl Violet 10B.....	1	..
Gallocyanine Paste	..	4,000
Guinea Fast Green B.....	500	..
Hansa Yellow G Paste...	2,000	..
Helindone Fast Scarlet R Powder	46	..
Helindone Orange R Paste	200	..
Helindone Pink AN 10%.	100	..
Helindone Pink BN	500	..
Hydron. Blue G Paste....	500	..
Indan. Blue GCD	2,500	..
Indan. Blue GCD Paste..	4,575	..
Indan. Blue GCD Double Paste	5,000	..
Indan. Blue 3G Paste....	100	..
Indan. Bordeaux B Ex...	330	..
Indan. Claret B Ex.....	25	..
Indan. Golden Orange G	2,000	..
Indan. Golden Orange GDBL	795	..
Indan. Golden Orange RRT	2,100	..
Indan. Pink B Double....	100	..
Indan. Red BN Ex. Paste	100	..
Indan. Violet BN Ex....	200	..
Indan. Violet BN Ex. Paste	200	..
Indan. Violet RR Ex.....	1,000	..
Indan. Violet RR Ex. Paste for printing.....	1,000	..
Indan. Yellow G Paste...	50	..
Indan. Yellow G Double..	1,000	..
Indigo MLB 6B	200	..
Indigo MLB 6B Powder..	300	..
Indochromine T	..	2,500
Kiton Red 6B.....	..	3,000
Kiton Yellow S.....	..	3,000
Leukotrop W Conc.....	3,000	..
Lithol Fast Orange R Pdr.	200	..
Lithol Red GG	1,000	..
Lithol Rubine BN	3,100	..
Lithol Rubine BN Pdr...	200	..
Methylene Blue BG Conc.	..	1,000
Methylene Heliotrope O.	200	..
Milling Red 6BA.....	220	..
Naphthogene Blue 2R....	220	..
Naphthogene Blue 4R....	220	..
Naphthol AS	12,316	..
Naphthol BS	440	..
Orange IV Powder.....	..	2,000
Ordoval G	2,800	..
Patent Blue A.....	1,000	..
Patent Phosphine M Conc.	..	220
Permanent Red 4B	4,000	..
Permanent Red 4B Ex...	2,500	..
Permanent Red 4R	2,000	..
Polyphenyl Yellow	..	2,000
Protectol I	200	..
Protectol Agfa I	100	..
Protectol Agfa II	100	..
Pyrazol Orange G.....	..	4,000
Rapid Fast Red GL Paste	490	..
Rhodamine B Base.....	..	660
Rhodamine 6GDN Extra.	5	..
Rose Bengal	..	1,045
Rose Bengale NTO.....	10	..
Rose Induline 2B.....	20	..
Saba Phosphine 2G Conc.	..	1,000
Soluble Blue TL.....	100	..
Supramine Black BR Pdr.	50	..
Tartrazine Conc. Pure....	..	3,000
Thionol Sulphur Yellow G	..	1,100
Thional Yellow G.....	..	2,000
Toluyene Red	110	..
Turquoise Blue B.....	25	..
Ursol Brown 2GA	300	..
Ursol Grey AL	300	..
Ursol Grey B	200	..
Ursol Grey R	200	..
Ursol SLA	225	..
Victoria Blue B Base.....	..	1,100
Victoria Pure Blue B Base	1	..
Viridine Green Color.....	600	..
Wool Blue 5B	400	..
Wool Fast Blue BL Conc.	81	..
Wool Fast Marine Blue BB	50	..
Wool Green S	..	2,000
Xylene Blue VS	..	2,000
Xylene Light Yellow GG	..	1,100
Xylene Light Yellow 2G.	..	6,840
Xylene Yellow 2G	..	127
Xylene Yellow 3G	..	9
Totals	148,502	190,751

KNIT GOODS SHOW BREAKS OWN RECORD

The exhibition of the National Association of Hosiery and Underwear Manufacturers which opened in the Commercial Museum, Philadelphia, last week, proved to be the largest and most complete in the history of the organization. In view of the uncertainties through which the knit goods trade has passed in recent months, it was felt that all interests should pull together in an effort to make a display which would reflect the spirit of optimism which prevails in the trade.

S. D. Bausher, president of the Association, declared himself extremely pleased over the showing that was made. More than two hundred exhibits of firms from all over the country were shown at the exposition this year.

BEARING OF A SYNTHETIC DYE INDUSTRY UPON OUR NATIONAL WELFARE

(*Continued from last week.*)

It is appropriate to point out that this situation is not due to any actual deficiency of anthracene as measured by the sum total present in our tar, nor to any grave technical obstacles to its recovery from a chemical or engineering standpoint, but is directly referable to the fact that its removal by the present method leaves the pitch so hard that it does not find a ready market here, and this makes the anthracene carry all the cost, and the dyes prepared from it would consequently be so expensive that they could not hope to compete with similar products from Germany or England, where hard pitch is readily salable for briquetting coal dust and coke breeze. The problem is one of the most important confronting our dye industry and is being vigorously attacked both by the tar distillers and by the organic chemist, the latter investigating the various methods by which anthraquinone, the most important of the anthracene intermediates, can be made from benzole and a naphthalene derivative (phthalic anhydride). Some success has already crowned efforts of the latter type, and one concern is already manufacturing this anthracene intermediate synthetically on a commercial scale.

When anthracene itself is available, this intermediate is easily produced by oxidation of the former. It is the mother-substance of such valuable classes of dyes as the alizarins (Turkey Red, etc.), indanthrenes, etc., which are of especial service in the dyeing of cotton shirtings, ginghams and calicoes.

The alizarin so prepared is the same as the alizarin obtained in years gone by from madder. This synthesis has already been alluded to, and it was the death knell of the madder industry. In the ten years following this discovery, the output of natural alizarin fell from 500,000 tons per annum to less than 500, and this too in spite of attempted protective legislation on the part of the French Government, for the industry was largely a French one, decreeing that no trousers should be accepted for the French soldiers unless their brilliant red had been produced with natural madder.

Methyl Anthracene and Phenanthrene

These are relatively unimportant, since they are not yet obtainable in large amounts or at low prices.

Methyl anthracene bears the same relationship to anthracene that toluene does to benzole.

Phenanthrene belongs to a slightly different family, and is of interest also to the pharmaceutical chemist, as it is the mother-substance of the wonderful alkaloid morphine, as well as of certain other alkaloids, but as yet no method has been devised of building them up synthetically from this crude.

Carbolic Acid (Phenol)

The foregoing six crudes belong to the class of compounds known as hydrocarbons, since they are all composed of but two elements, carbon and hydrogen, which are present in varying amounts and united in quite different ways. Carbolic acid, however, contains oxygen as well as carbon and hy-

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drogen and, as its name indicates, possesses acid properties, while the hydrocarbons are neutral and indifferent bodies. Further, it is both a crude and an intermediate; a crude in that it can be separated from coal tar by distillation and purification; an intermediate in that it is prepared synthetically from benzole, as already stated. During the war, when the supply of toluene available was insufficient to provide all the T. N. T. required for bursting charges in shells, mines and torpedoes, recourse was had to picric acid, the raw material for which is carbolic acid. As the amount of carbolic obtained from coal tar was unequal to the task, huge plants were erected by the Government to manufacture it synthetically, the methods most widely employed consisting either in treating the benzole first with sulphuric acid and fusing the product with caustic soda or, when the supply of sulphuric acid also threatened to give out, by chlorinating the benzole first, then nitrating, boiling this product with lime and finally nitrating again. The result of establishing these great plants was an output in 1918 of 106,794,277 pounds of carbolic acid and when the war demand ceased and these plants were closed, a surplus stock of about 35,000,000 pounds was left on the Government's hands. This surplus hanging over the market forced the production for 1919 down to 1,543,659 pounds, and meant a drop in the total value of annual output from $37,270,284 to $155,624.

Picric acid, by the way, is the basis of the English lyddite, and the French melinite powders. It is a strong yellow dye, and was used for this purpose centuries before its power as an explosive was discovered; in fact, it is the oldest of all artificial organic dyes. In 1711, Woulfe found that by the action of nitric acid upon indigo, a liquid was obtained which dyed silk yellow, and this product was later shown to be picric acid. It was not until 1871 that Sprengel called attention to the fact that picric acid could be detonated, but no application of this observation was made until Turpin, in 1886, proposed its use as a bursting charge for shells.

Chloropicrin, one of the deadly war gases used in considerable amounts by both sides in the recent war, is manufactured by boiling picric acid with bleaching powder in water solution.

The therapeutic properties of carbolic acid are familiar to all of us, and its extensive employment as a general disinfectant and antiseptic.

When carbolic acid is treated first to a dose of caustic soda and then chloroformed, it is transformed into two new substances; one of which is readily changed into a perfume with the odor of the blooming hawthorn and hence sold under the name Aubepine, from the French name for the hawthorn. The other has a faint but pleasing odor, and occurs in the blossoms of the spirea (ulmaria). By coupling it with the acid found in vinegar (acetic acid), it forms the perfume substance called coumarin, the compound to which the odor of the woodruff and the sweet clover are due, and which is the odoriferous and gustiferous principle of the tonka beans. These latter are often mixed with vanilla beans, because of their vanilla-like flavor and aroma, in the preparation of the natural vanilla extracts, as they give to the extract a rather pleasanter bouquet. As the organic chemist can synthesize the important component of vanilla beans by starting with wood tar, it is entirely within his power to fabricate a high-grade vanilla extract of fine bouquet, in which the alcohol has been made from limestone and coke, or possibly from sawdust, the vanilla from wood tar and the bouquet from coal tar. Courmarin is the basis also of most "new-mown hay" perfumes.

If, instead of chloroforming our carbolic acid after its caustic soda treatment, we bake it in presence of the gas which bubbles up in our soda water, the product is the familiar silicylic acid, so extensively employed as a remedy, either in the form of the acid itself, its salts, or such derivatives as aspirin, salol, salophen, and the like, in cases of rheumatism, grippe, headaches and fevers, and also made use of as a food preservative and for the manufacture of many dyes. I have already shown

you how we can combine this rheumatism acid with wood alcohol and produce the synthetic oil of wintergreen.

But let us vary once more the method of attack, and subject our carbolic acid to the action of dilute nitric acid. The result will again be two distinct and new products; one of which yield dyes and other derivatives of commercial value, while from the other one, the valuable drug phenacetin is manufactured

Under the influence of a somewhat stronger nitric acid, carbolic acid yields an intermediate which may be converted on the one hand into picric acid, or on the other into Sulphur Black, a dye which is consumed in the United States in larger amounts than any other, over 14,500,000 pounds having been produced here in 1919 by thirteen different manufacturers, and some of their brands being admittedly superior to the finest products imported from Germany prior to the war. With a still stronger nitric acid, assisted by some concentrated sulphuric acid, carbolic passes into picric acid, which has been discussed before.

The synthetic resins of the bakelite, condensite and redmanol type, are prepared for carbolic acid (or cresol) and formaldehyde (or closely related compounds). These synthetic resins have found a wide sphere of usefulness as substitute for hard rubber, since they can be filled, molded, machined, etc., and have a high dielectric constant. Synthetic tannins of the neradol class are prepared from these same initial materials.

The mild laxative, phenolphthalein, is likewise a carbolic derivative.

(*To be continued.*)

NOTES OF THE TRADE

Originally scheduled to take place April 25, the first annual meeting of the Allied Chemical & Dye Corporation has been postponed to May 23, according to a recent announcement which declares that it was found impracticable to complete the audit of 1920 accounts of constituent companies soon enough to permit the publication of the first annual report in time for the former date.

The medals committee of the National Association of Cotton Manufacturer has awarded the 1921 medal of the organization to Dr. Melvin T. Copeland, director of the Bureau of Business Research, Harvard University, "for his noteworthy work in recent years as an international statistician, and also in recognition of his earlier work as a writer on textile subjects."

Announcement has been made by Eugene Suter & Co. to the effect that this firm has moved its headquarters from 120 Broadway, New York City, to 160 Broadway.

A recent special cable to the "Journal of Commerce," New York, from Frankfort on the Main, states that German export duties on dyestuffs, "especially aniline, alizarine, indigo and sulphur," have been suspended.

CALCO OPENS PHILADELPHIA OFFICE

Announcement has been made to users of intermediates and dyestuffs to the effect that the Calco Chemical Company, of Bound Brook, N. J., has opened a Philadelphia office at 106 Chestnut Street, that city.

This office will carry a stock of the entire Calco line of Dyestuffs and In-

ANILINE SALES CORP.
480 West Broadway, New York
Full line of Acid, Direct and Basic Colors
Special line of
Alizarine Colors
to stand fulling, light, etc.
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termediates. The purpose of the company in establishing this branch with a complete sales organization, is to enable them to be more closely in touch with the Philadelphia trade and to insure prompt delivery of all orders.

CORNELL TO HAVE $1,500,000 CHEMISTRY "LAB."

Authority to advertise for bids for the construction of the $1,500,000 chemical laboratory was granted at a recent meeting of the board of trustees of Cornell University.

Plans for the chemistry building have been awaiting the approval of the board for some time, the money having been given by an anonymous donor two years ago, shortly after the burning of the old chemical building. The new building will be constructed on the site formerly occupied by the homes of former President J. G. Schurman, Prof. C. L. Durham and Prof. Ernest Merritt on East Avenue. The new laboratory will be, it is said, the best equipped in the world as well as one of the largest. Work will probably be begun before the end of the present term and will be completed within a year's time.

Dye-a-Grams

Wool Green SO is an excellent domestic product and equal in every respect to the imported Wool Green S!

—o—

Professor recently stated that slang has its place. No doubt about it. In fact, it comes very near to copping the place language once had!

—o—

Something has happened to the market for Wool Green S. . . . Just SO!

—o—

FURS SHOW SHARP ADVANCE—*Headline.* With the season for furs so near at hand, this was to be expected.

—o—

The Chemical Warfare Service has a poison so powerful that three drops will kill anyone whose skin it touches. —*News item.* Must be from a bootlegger's formula!

—o—

In the spring one's fancy is likely to turn to almost anything—except work. Must be that this is what is again affecting Congress.

—o—

There is no doubt but that Uncle Sam's foreign relations are poor relations!

—o—

And now, Professor, if you'll kindly oblige with a little soft music—

Sunday brought rest from endeavor;
Monday we'd orders galore;
Tuesday, however, believing it clever,
They canceled of orders a score
(Or more)
They canceled of orders a score.

Wednesday they wanted goods hurried;
Thursday they wired to annul—
Friday was flurried; we scurried and worried;
Saturday showed us a lull
(How dull!)
Saturday showed us a lull.

Talk about strife and contention—
The mill man gets plenty in *his!*
Ain't this dissension some place we might mention?
Brother, we'll say that it is
(Gee whizz!)
Brother, we'll claim that it is!

G. E. T.

KLORASENE

A superior Solvent

For removing oil and grease stains

Sole Manufacturers

Bosson & Lane

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DU PONT DYESTUFFS

The Du Pont Oval is a pledge to American Industry that an adequate supply of dyestuffs will always be available for its use.

Pontamine Colors for Cotton Goods

Pontamine Brown D3G—is offered to the cotton industry as a basis for browns of all kinds, where shades of great brilliancy are required.

Pontamine Fast Pink BL—is a new pink of exceptional purity of shade, fastness to light and good value. We recommend its use in all branches of cotton goods dyeing.

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Dyers of Mercerized Cotton

will be interested in the new and important addition made to our line of Direct Oranges, and designated

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Erie Fast Orange A

This new product possesses superior fastness to light, washing, perspiration, besides the property of ready solubility and level dyeing. It is especially recommended for self and compound shades upon plain or mercerized cotton.

Samples with full technical information will be supplied to dyers upon request.

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